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Memorandum

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Subject: Quicksilver Geothermal (formerly Geysers Unit 16) (79-AFC-05C), Socrates Geothermal (formerly Geysers Unit 18) (79-AFC-03C), and Grant Geothermal (formerly Geysers Unit 20) (82-AFC-01) Staff Response to Petitioner's Comments on Staff's Revised Air District Permit Conditions

On August 23, 2018, staff filed its Staff Assessment of the Geysers Power Company, LLC petition to amend requesting identical modifications at each of the facilities to replace temporary portable emergency diesel engines with stationary permanent emergency diesel engines for the cooling tower wet down systems to aid in fire prevention at the Quicksilver, Socrates, and Grant geothermal power plants.

On October 18, 2018, the applicant filed comments on the staff assessment, including comments and suggested edits to staff's revisions to air district permit conditions. After considering those comments, staff is providing the attached response in advance of the November 8 staff workshop.

Response to ‘Comments on the Staff Analysis of the Petition to Amend – Permanent Diesel Pump for Cooling Tower Wetting System, ATTACHMENT A, Project’s Owner’s Proposed Changes to Staff’s Revisions to Air District Permit Conditions’ (TN 225034, docketed October 18, 2018)

Note: The original staff analysis is included in TN 224577, published August 23, 2018.

General Staff Response: Staff’s specific responses to the petitioner’s proposed language changes are below. While staff understands the concerns raised by the petitioner regarding incorporating the Air District’s permit conditions into the Energy Commission’s license as Air Quality Conditions of Certification, this practice is supported by the Energy Commission’s regulations. California Code of Regulations, title 20, section 1744.5 addresses the merging of the Air District’s permit requirements with the Energy Commission’s license. Section 1744.5(b) directs the Air District to *conduct for the commission’s certification process*, a determination of compliance with applicable district regulations and to specify the conditions and best available control technology and other mitigation measures that are necessary for compliance with Air District rules. In the context of an Energy Commission license, the requirements are found in the conditions of certification. Staff’s standard practice, consistent with section 1744.5, is to incorporate the Air District permit requirements, with appropriate modifications, into the conditions of certification. The modifications are typically related to providing the Energy Commission’s compliance project manager with the filings provided to the Air District.

The compliance project manager requires these filings because under California Code of Regulations, title 20, section 1770,

The Commission shall provide adequate monitoring of all conditions and measures set forth in the final decision required to mitigate potential impacts and to assure that the facility is constructed and operated in compliance with all applicable laws including, but not limited to, air quality, water quality, and public health and safety laws, ordinances, regulations, and standards for all projects certified.

Therefore, Air District permit requirements are incorporated into the Energy Commission’s license in a manner which ensures the compliance project manager and relevant staff can implement section 1770.

Quicksilver Geothermal (79-AFC-05)

Petitioner Proposals for AQ-1G, AQ-E2C, AQ-5C, AQ-5D, and AQ-E5A: The petitioner is proposing to remove the term ‘and/or CPM’ from the condition and/or verification language. For **AQ-5D**, the petitioner proposes alternate language requiring the project owner to submit an ambient monitoring plan to the compliance project manager (CPM), for review only instead of approval, if the project owner does not participate in the Geysers Air Monitoring Program (GAMP). In addition, the petitioner-proposed language would require the project owner to submit an approval, disapproval, or plan modification from the Lake County Air Quality Management District (LCAQMD) to the CPM in the quarterly report.

Staff Response: Staff does not recommend removing the term ‘and/or CPM’ from the condition and/or verification language in these conditions or the removal of CPM approval of an alternative ambient monitoring plan if the project owner discontinues GAMP participation. These conditions are included in the LCAQMD permit(s) and incorporated into the Energy Commission license to ensure the facility continues to operate in compliance with the applicable local rules and regulations. The Energy Commission adopts these conditions with adaptations as needed, and/or additional staff conditions to ensure the facility complies with the California Environmental Quality Act (CEQA) and all federal, state, and local laws, ordinances, regulations and standards (LORS). The Energy Commission is responsible for the certification and compliance of thermal power plants 50 megawatts and larger and related facilities. The conditions and verifications together establish requirements of the Energy Commission license. Staff’s addition of the term ‘or/and CPM’ ensures clarity that the conditions are enforceable by the Energy Commission.

Socrates Geothermal (79-AFC-03C)

Petitioner Proposals for AQ-A4, AQ-AE1, AQ-AE3, AQ-C3, AQ-C8, and AQ-C10: The petitioner is proposing to remove the term ‘and/or CPM’ from the condition and/or verification language. For **AQ-C10**, the petitioner is proposing to remove Energy Commission from the list of regulating agencies approved to require additional monitoring requirements. The petitioner is proposing to remove both ARB and CPM from the review and approval of an alternative ambient monitoring plan if the project owner does not participate in GAMP. In addition, the petitioner-proposed language would require the project owner to submit an approval, disapproval, or plan modification from the Northern Sonoma County Air Pollution Control District (NSCAPCD) to the CPM in the quarterly report.

Staff Response: Staff does not recommend removing the term ‘or CPM’ from the condition and/or verification language, the Energy Commission authority to require additional monitoring stations, or CPM approval of an alternative ambient monitoring plan if the project owner discontinues GAMP participation. These conditions are included in the NSCAPCD permit(s) and incorporated into the Energy Commission license to ensure the facility continues to operate in compliance with the applicable local rules and regulations. The Energy Commission adopts these conditions with adaptations as needed, and/or additional staff conditions to ensure the facility complies with CEQA and LORS. The Energy Commission is responsible for the certification and compliance of thermal power plants 50 megawatts and larger and related facilities. The conditions and verifications together establish requirements of the Energy Commission license. Staff’s addition of the term ‘or/and CPM’ ensures clarity that the conditions are enforceable by the Energy Commission.

Grant Geothermal (82-AFC-01C)

Petitioner Proposals for AQ-A7, AQ-AE1, AQ-AE3, AQ-AE4, AQ-C4, AQ-C9, AQ-C11, and AQ-CE1: The petitioner is proposing to remove the term ‘and/or CPM’ from the condition and/or verification language. For **AQ-C11**, the petitioner is proposing to remove Energy Commission from the list of regulating agencies approved to require additional monitoring requirements. The petitioner is proposing to remove ARB and CPM from the review and

approval of an alternative ambient monitoring plan if the project owner does not participate in GAMP. In addition, the petitioner-proposed language would require the project owner to submit an approval, disapproval, or plan modification from the NSCAPCD in the quarterly report. Note: The petitioner included **AQ-B10**, but did not propose any changes.

Staff Response: Staff reviewed the use of the term ‘and/or CPM’ in the specified conditions, the request to remove Energy Commission from the list of authorized agencies to require additional monitoring, and CPM approval of an alternative ambient monitoring plan if the project owner does not participate in GAMP. Staff does not recommend removing the term ‘and/or CPM’ from the condition and/or verification language, the Energy Commission authority to require additional monitoring stations, or CPM approval of an alternative ambient monitoring plan if the project owner discontinues GAMP participation. These conditions are included in the NSCAPCD permit(s) and incorporated into the Energy Commission license to ensure the facility continues to operate in compliance with the applicable local rules and regulations. The Energy Commission adopts these conditions with adaptations as needed, and/or additional staff conditions to ensure the facility complies with CEQA and LORS. The Energy Commission is responsible for the certification and compliance of thermal power plants 50 megawatts and larger and related facilities. The conditions and verifications together establish requirements of the Energy Commission license. Staff’s addition of the term ‘or/and CPM’ ensures clarity that the conditions are enforceable by the Energy Commission.

Petitioner Proposals for AQ-B11: The petitioner is proposing to remove the term ‘and CPM’ from the condition and CPM approval from the verification.

Staff Response: Staff does not recommend removing the term ‘and CPM’ from the condition but does recommend changing the first use to ‘or CPM’. Staff recommends Condition of Certification **AQ-B11** to read as follows:

AQ-B11 The project owner shall, in any 12 month period, limit unscheduled outages for Unit 20 to no more than a total of 12. The following shall not be used in computing the total outages.

- a. Scheduled outages (defined as outages with 24 hour advance notice between the steam supplier and project owner, except in the case of Unit 20 outages resulting from an abundance of hydropower, in which case a scheduled outage shall be defined as one hour notice).
- b. Steam supplier induced outages (such as pressure surge, strainer plugging, etc.).
- c. Outages of less than 2 hours in duration.
- d. Outages which do not cause steam stacking.

A violation of the above performance standards is considered a violation of this condition.

The project owner shall have on file with the District an approved operating protocol describing the methods that will be used to meet the 12 outages in 12 consecutive months performance standard. The protocol must include a description of the

operational procedures between the steam supplier and project owner, project owner's operational procedures, and equipment to meet the above standard. The terms and requirements of the protocol may be modified by the Air Pollution Control Officer ~~and~~ or CPM for good cause upon written request from the project owner.

The project owner shall allow the District and CPM to inspect all operating logs to verify the total outage hours. These requirements are in addition to the applicable requirements of rule 540.

In the event the project owner is not able to meet the standards specified above, the following shall be required:

The project owner shall prepare and submit a revised "plan" to the Air Pollution Control Officer and CPM, within 30 days of the end of the month in which the outage limit was exceeded, to achieve the outage standards set forth in this permit condition. At a minimum, the measures to be considered in the "plan" shall include: improved coordination of the power plant and steam field operations, improved alarming and control systems, increased duration of manned operation of the power plant, improved preventative maintenance and design modifications, retrofit of a 100% of steam flow turbine bypass, and retrofit of a 50% of steam flow turbine bypass. In evaluating measures to be taken to prevent future exceedances of the outage standard, outages of less than 2 hours shall be counted. This "plan" shall also be submitted to EPA for approval if the outage standard is exceeded.

Within 30 days of receipt of the "plan," the Air Pollution Control Officer shall determine whether the "plan" is satisfactory and, if so, shall approve the "plan". Upon approval, the revised "plan" shall supersede the old plan and become a part of the terms and conditions of this permit.

[ref. PSD SFB 81-03 Cond. IX.C., PT0-82-45A Cond.18]

Verification: The project owner shall submit revised plans to the CPM for approval. The project owner shall make the site and records available for inspection by representatives of the District, ARB, U.S. EPA, and Energy Commission upon request.

Petitioner Proposals for AQ-C1: The petitioner is proposing to remove the term 'and CPM' from the condition.

Staff Response: Staff recommends removing the term 'and CPM' from the condition. Staff already proposed this change to the corresponding condition of certification for Socrates Geothermal. Staff intended to make the same change to Grant Geothermal for consistency. Staff recommends Condition of Certification **AQ-C1** to read as follows:

AQ-C1 The project owner shall, on a monthly basis, conduct a source test of the cooling tower to determine the H₂S emission rate to verify compliance with condition **AQ-A1**. A mass balance determination of total H₂S to the cooling tower based on measured operating conditions may be used to document that the worst case possible H₂S emissions are less than the emission limit of the plant or District Method 102 shall be utilized to determine the H₂S emission rate. The project owner may propose an

Alternative Compliance Plan (ACP) which allows for operating flexibility of the power plant, including periods when accessing the cooling tower is not possible, while maintaining compliance with all applicable emission limits of Condition **AQ-A1**. The ACP shall list operating parameters such as power output (MW), target pH, abatement solution concentration levels, and burner/scrubber exit concentrations which shall be met in order to meet all applicable emission limits listed above. The ACP shall be submitted to the APCO and ~~CPM~~ for approval. The APCO shall approve, disapprove or modify the plan within 30 days of receipt of the ACP. An APCO-approved ACP shall consist of all parametric operating guidelines which shall be used to determine compliance with Condition **AQ-A1**. The ACP shall list the specific operating conditions the ACP will supersede. [ref. PTO 82-45A Cond. 22]

Verification: The project owner shall submit source test results according to Condition **AQ-E1**. The project owner shall submit any ACP to the CPM for review. The project owner shall submit the District's approval, disapproval or plan modification to the CPM in the following quarterly report.